PRINTER RUSH (PTO ASSISTANCE) 09/812034 Examiner: Horlick Application: GAU: BLACK Location: (IDC) FMF FDC From: Date: Tracking #: 0606822 Week Date: **DOC CODE DOC DATE MISCELLANEOUS** 1449 Continuing Data **JDS** Foreign Priority M CLM **Document Legibility IIFW** Fees Other **SRFW** DRW **OATH** 312 **SPEC** [RUSH] MESSAGE: Miral dain 60 Contains multiple dependencies Diease asser [XRUSH] **RESPONSE**:

NOTE: This form will be included as part of the official USPTO record, with the Response document coded as XRUSH. Doc.  $503.39814 \times 80$ REV 10/04

**INITIALS:** 

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any one of

- 60. (Currently amended) A method according to claims 53 and 56-59 further comprising physically generating at least one member of said set of optimized protein sequences and experimentally testing said sequence for a desired function.
- 61. (Previously presented) A method according to claim 30, 31, or 53 wherein said analyzing step comprises a DEE computation.
- 62. (Previously presented) A method according to claim 56 wherein said analyzing step further comprises a DEE computation.
- 63. (Previously presented) A method according to claim 56 wherein said set of optimized protein sequences comprises the globally optimal protein sequence.
- 64. (Currently amended) A method according to claim 61 or 62 wherein said DEE computation is selected from the group consisting of original DEE and Goldstein DEE.
- 65. (Previously presented) A method according to claim 30, 31, or 53 wherein said analyzing step includes the use of at least one scoring function.
- 66. (Currently amended) A method according to claim 56 ex-65 wherein said scoring function is selected from the group consisting of a van der Waals potential scoring function, a hydrogen bond potential scoring function, an atomic solvation scoring function, an electrostatic scoring function and a secondary structure propensity scoring function.
- 67. (Previously presented) A method according to claim 65 wherein said analyzing step includes the use of at least two scoring functions.
- 68. (Previously presented) A method according to claim 65 wherein said analyzing step includes the use of at least three scoring functions.
- 69. (Previously presented) A method according to claim 65 wherein said analyzing step includes the use of at least four scoring functions.
- 70. (Previously presented) A method according to claim 66 wherein said scoring function is an atomic solvation scoring function.
- 71. (Previously presented) A method according to claim 70 wherein said atomic solvation scoring function includes a scaling factor that compensates for over-counting.
- 72. (Previously presented) A method according to claim 30, 31, 53, or 56 further comprising experimentally testing at least one member of said set.
- 73. (Previously presented) A method according to claim 63 further comprising the step of:

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